

Investigations in the Tantalum-Oxygen System.
1. Concerning the Mechanism of Oxygen Uptake
at High Temperatures, by Erich Gebhardt,
Hans-Dieter Seghezzi, 28 pp.

GERMAN, per, Z. Metallk, Vol L, 1959, pp 248-257.

AEC tr-3872

415-58453

Sci
Jan 60

105,830

Accounting Rate Meter for X-Ray Refraction
Investigations, by V. Wolfstieg, 3 pp.

GERMAN, per, Z. fur Metallkunde, Vol L,
No 3, 1959, pp 154-157.

CSIRO

Sci - Phys
Nov 61

174,406

**Fabrication and Properties of Nickel Aluminide
Sinter Materials, by Erich Fitzer.**

GOVERNMENT USE ONLY

**GERMAN, per, Zeit für Metalle, Vol 50, No 4,
1959, pp 187-196.**

NASA TT F-12,247

**Sci-Mat
Aug 69**

390,096

Friction Between Solids as a Physico-
Chemical Problem, by A. M. Knappwost,
C. Rust.

GERMAN, per, Z. fuer Metallkunde,
Vol L, No 5, pp 240-247, No 9, 1959,
pp 540-545.

CSIRO

Sci - Chem
Jun 62

203,380

Yield Point Phenomena in Zirconium-Tin Alloys, by
L. Bangert, 9 p.

GERMAN, per, Zeit fur Metallkunde, 1959, Vol L,
No 5, pp 269-274,

ATS-95134G

113, 586

Sci
Apr 60
Vol III, No 2

On the Silicon-Phosphorus System, by D.
Glossen, R. Vogel, 14 pp.

GERMAN, per, Z fur Metallkunde, Vol L, No 3,
1959, pp 274-277.

SIA 60-14482

Sci

Apr 61

OTS, Vol III, No 12

162,957

X-Ray Examination of Diffusion in the Sn-Hg
System, by F. Gunther.
GERMAN, per, Z Metallurgie, No 50, 1959, pp 288-293.
*NBS TT 70-57423

Sci-Mat
Aug 70

Construction and Method of Operation of Static
Frequency Tripler for the Heating and Melting of
Metals, by G. W. Seulen. UNCL

GERMAN, per, 2 Metallkunde, May 1959, pp 299-
306.

British Iron and
Steel Ind 1402
(14)

Sci - Engr; Min/Met
Nov 59

100,488

Recrystallization on Zinc. I. Primary
Recrystallization, by H. Borchers,
R. Schwarzwaelder. 15 p.
GERMAN, per, Zeitschrift fuer Metallkunde,
Vol 50, No 6, 1959, pp 315-327.
SLA TT-66-10442

Sci-M&M
Jul 66

306,071

Recrystallization of Zinc. II. Secondary
Recrystallization, by H. Borchers,
R. Schwarzwaelder. 6 p.
GERMAN, per, Zeitschrift fuer Metallkunde,
Vol 50, No 6, 1959, pp 324-327.
SLA TT-66-10443

Sci-M&M
Jul 66

306,072

The Cold-Rolled and Recrystallization Texture
of Hafnium, by H. Muller,

GERMAN, per, Z. Metallkunde, Vol L, No 6, 1959,
pp 346-370.

ATS 511-GJ

Sci - Min/Metals

Aug 60

123,938

Theory of the Formation of S-Shaped Kink Bands in
Plastically Deformed Metal Crystals. II. Dislocation
Arrangement, Stability and Course of Development
of the Kink Band, by Hartwig Mueller, 18 pp.

GERMAN, per, Zeitschrift fuer Metallkunde, 6228247,
Vol L, 1959, pp 351-356.

AEC ORNL-tr-385

292,685

Sci-Materials & Metallurgy
Nov 65

Theory of the Formation of S-Shaped Kink Bands in
Plastically Deformed Metals. Crystals. II. Dislocation
Arrangement, Stability and Course of Development of
the Kink Band, by Hartwig Muller, 17 pp.
GERMAN, per, Z fuer Metallkunde, Vol I, 1959,
pp 356-363. 9225864
AEC-ORNL-Tr-296

Sci-Mat & Met
Jan 65

270,581

61-10564

Pelzel, Erich.
THE SPECIFIC VOLUME OF SOLID AND LIQUID
ANTIMONY-BISMUTH ALLOYS (Das Spezifische
Volumen Fester und Flüssiger Antimon-Wismut-
Legierungen). [1960] [13]p. (5 figs. omitted) 17 refs.
Order from SLA ml\$2.40, ph\$3.30 61-10564

Trans. of Z[eitschrift für] Metallkunde (West
Germany) 1959, v. 50, no. 7, p. 392-395.

148,539

1. Antimony-bismuth alloys--
Phase studies
1. Pelzel, E.

Office of Technical Services

(Metallurgy--Nonferrous Metals, TT, v. 5, no. 7)

Thomas H. and Wilke-Dorfurt, U.
THE INFLUENCE OF ADDITIONS ON THE AGE-
HARDENING OF COPPER-BERYLLIUM ALLOYS.
[1962].

Order from FRI

FRI Trans-171

Trans. of Zeit[schrift] für Metallkunde (West Germany)
1959, v. 50, no. 8, p. 466-472.

Another trans. is available from SLA \$1.60 as
62-16306 [1962] [20]p.

DESCRIPTORS: Aging, Hardening, *Copper alloys,
*Beryllium alloys, Cobalt, Nickel, Iron, Metallurgy,
Temperature, Atomic radii, Solubility, Precipitation,
*Alloys

For abstract see Technical Translations 8:704, 1962.

(Metallurgy, TT, v. 9, no. 1)

63-12174

I. Thomas, H.
II. Wilke-Dorfurt, U.
III. FRI Trans-135
IV. Fulmer Research Inst.,
Ltd. (Gt. Brit.)

Office of Technical Services

The Practical Evaluation of Internal Stresses, by
E. Houdremont, H. Scholl. UNCL

GERMAN, per, Z Metallkunde, Vol L, No 9, 1959.

*TIL 5109

Sci - Min/Met
Apr 60

Carbonitrides of Tantalum, by Georg
Brauer, and Richard Lesser, 4 p.
FOR OFFICIAL USE ONLY
GERMAN, per, Zeitschrift fuer Metallkunde,
Vol L, 1959, pp 512-515. 9698830
NSIC-450

Sci-Chem
Mar 66

294,403

Investigations Concerning the Tantalum-Oxygen System,
II. Reactions and Equilibrium States Between Mixed
Crystal and Oxide Phases, by E. Gebhardt, H. D.
Keghezzi,

ERMAN, per, Z. Metallkunde, Vol L, No 9, 1959,
pp 521-527.

ATS 570-GJ

Sci - Chem

Aug 60

125,858

Gerold, V. and Haberkorn, H.
X-RAY INVESTIGATION OF COLD AGEING IN
Al-Mg-Cu AND Al-Mg-Zn ALLOYS. [1961] [21]p.
14 refs.

Order from SLA \$2.60

62-10590

Trans. of Zeit[schrift] für Metallkunde (West Germany)
1959, v. 50, no. 10, p. 568-574.

DESCRIPTORS: *Aluminum alloys, *Magnesium
alloys, *Copper alloys, *Zinc alloys, Aging, X-ray
diffraction analysis, Crystal structure, Lattices.

(Metallurgy, TT, v. 7, no. 11)

62-10590

I. Gerold, V.
H. Haberkorn, H.

Office of Technical Services

Althof, F.-C. and Spindler, H.
THE INFLUENCE OF CATIONS ON INTERCRYSTALLINE AND STRESS CORROSION IN ALUMINUM ALLOYS. [1961] [22] p. 14 refs.
Order from SLA ml\$2.70, ph\$4.80 61-10787

Trans. of Zeitschrift für Metallkunde (Germany)
1959, v. 50, no. 10, p. 574-581.

151857

(Metallurgy, TT, v. 5, no. 9)

61-10787

1. Aluminum alloys--Stresses
 2. Aluminum alloys--Corrosion
 3. Ions--Physical effects
- I. Althof, F.-C.
II. Spindler, H.

Office of Technical Services

Reimer, Ludwig.
ELECTRON MICROSCOPE STUDY OF THE PRE-
CIPITATES IN AN ALUMINIUM-SILVER ALLOY
USING THE THIN SECTION METHOD (Elektronen-
mikroskopische Untersuchung der Ausscheidungen in
einer Aluminium-Silber-Legierung mit der
Dünnschnittmethode). 13 Jun 63 (13p) 7 refs
Order from SLA \$1.60

TT-64-14473

Trans. of Zeit[schrift] für Metallkunde (West Germany)
1959, v. 50, no. 10, p. 606-610.

(Metallurgy--Structural, TT, v. 11, no. 11)

TT-64-14473

L. Reimer, L.

Office of Technical Services

The Kinetics of the Reaction of Al With Fe, by
Th. Heumann.

GERMAN, per, Z. Metallkde., Vol 50, 1959, pp 617-625.

*NTIS/USDC/NBS TT 71-55052

Available NBS Only

BISI - 10723

May 71

Research Regarding Diffusion in the Uranium-
Zircon and Uranium-Nickel Systems, by N.
Muller.

GERMAN, per, Z. fur Metallkunde, Vol L,
No 11, 1959, pp 652-660.

CSIRO

Sci - Chem
Jul 62

207,678

Thermodynamics and Kinetics of Sintering, by
Herbert J. Oel, 13 pp.

GERMAN, per, Z Metallkunde, Vol LI, No 1, 1960,
pp 53-58.

AEC Tr-4226

Sci - Min/Met
21 Feb 61

1440, 927

Strength and Ductility of Metals at Subzero
Temperatures, by A. Kochendorfer.

GERMAN, per, Z Metallkunde, Vol LI, No 2,
1960, pp 73-80.

HB 5184

Sci-M/M
Jan 64

246,356

Magnetic Investigations of Body-Centered
Cubic Phases in Aluminum With Fe-Group
Elements, by Martin Hohl, 29 pp.

GERMAN, per, Z Metallkunde, Vol LI, 1960,
pp 85-95.

AEC Tr-4195

Sci - Min/Met
10 Nov 60
List 45

131,418

Investigation of Grain-Boundary Migration in Aluminum
Bicrystals, by Wilhelm Schmitt, Peter Haasen, et al,
27 pp.

GERMAN, per, Z Metallkunde, Vol LI, 1960, pp 101-108.
AEC-Tr-6284

7220562

Sci-Mat & Met
Mar 64

252,827

A Simple Optical Pyrometric Method for the Direct
Determination of the True Temperature of
Incandescent Metals, by Carl Tingvaldt, 13 pp.

GERMAN, per, 2 fuer Metallkunde, Vol LI, 1960,
pp 116-119.

AEC Tr-4387

Sci - Min/Met
Apr 61

149,064

Continuous Thickness Measurement During Rolling
by Means of Radiation, by H. Hart.

GERMAN, per, Z fuer Metallkunde, Feb 1960,
pp 120-131.

BISI 1731

Sci - Engr

Mar 61

141,397

Investigations of the Depth of Deformation Produced
by the Preparation of Metallographic Sections, by
P. Lihl, H. Mayer, 19 pp.

GERMAN, per, Z Metallkunde, Vol LI, 1960, pp 186-190.

AEC MF-Tr-495

Sci - Min/Met
Apr 61

149,569

Interpretation of Electronmicroscopic Con-
tracts in the Transmission of Thin Crystals,
by H. Alexander.

GERMAN, per, Z. fuer Metallkunde, Vol LI,
No 4, 1960, pp 202-209.

CSIRO

Sci - Phys
Aug 62

211,481

An Improved Piezoelectric Method for
Investigating Processes in Metals During
Mechanical Stressing and During Phase
Transition, by H. Borchers, H. M. Tensl.
GERMAN, per, Zeit. fur Metallkunde,
Vol 51, pp 212-218, 1960 9229612
AEC UCRL-Tr-1216-L

ALSO TI-65-18117

M&M
Oct 63

290,645

The Structure and Magnetic Properties of
Aluminium-Manganese Alloys Containing
More than 25 AT.% Manganese, by
E. Koster, E. Wachtel.
GERMAN, per, Zeit Metallkunde, Vol 51,
1960, pp 271-280.
NLL Ref: 9022.4 (68/128)

Sci-MRhys
Mar 69

377,268

Bungardt, K. and Preisendanz, H.
DAMPING CAPACITY AND MODULUS OF RIGIDITY
OF ZIRCONIUM AND ZIRCONIUM-HYDROGEN
ALLOYS. [1960] 16p.
Order from ATS \$26.95

ATS-79M45G

Trans. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51, no. 5, p. 280-289.

146,925

(Metallurgy--Nonferrous Metals, TT, v. 5, no. 5)

61-12398

- I. Zirconium alloys--
Mechanical properties
- I. Bungardt, K.
- II. Preisendanz, H.
- III. ATS-79M45G
- IV. Associated Technical
Services, Inc., East
Orange, N. J.

Office of Technical Services

Alloys of Gold and Chromium, Molybdenum and Tungsten
by Ernst Rauh, 6 pp.

GERMAN, per, Z. Metallkde, Vol LI, No 5, 1960,
pp 290-291. 9069457

AEC-tr-5421

Sci - Min/Met
Dec 62

2.7.88

61-18843

Köster, W. and Hofmann, G.

RESISTOMETRIC INVESTIGATION OF THE INFLUENCE OF LATTICE DEFECTS ON THE COLD AGEING OF Al-Zn ALLOYS. [1961] [29]p. 22 refs. FRI Trans. no. 159.

Order from SLA \$2.60

61-18843

I. Köster, W.
II. Hofmann, G.
III. FRI-Trans-159
IV. Fulmer Research Inst., Ltd. (Gt. Brit.)Trans. of Metall. Soc. (Lond.) [Metall. Soc. (West)]
Order from SLA \$2.60, no. 159, p. 22 refs.COLD AGEING OF ALUMINUM ALLOYS. *Zinc alloys.
Properties: Aging, Temperature, Resistance, Lattice

The influence of electrical resistivity in the initial stage of the cold ageing of Al-Zn alloys with between 1% and 10% Zn is investigated as a function of the Zn content and the quenching rate. The quenching rate is varied by varying the temperature of the quenching medium. With increasing homogenizing temperature up to about 400°C, the hardening rate was (over)

Office of Technical Services

Pfeiffer, Irmtraud.
ELECTRON DIFFRACTION STUDIES OF THE OXIDE
LAYERS ON NICKEL-CHROMIUM AND NICKEL-
CHROMIUM-IRON ALLOYS (Elektronenoptische
Studien an Oxydschichten auf Nickel-Chrom- und
Nickel-Chrom-Eisen-Legierungen). [1963] [23p]
(foreign text included) 15refs
Order from SLA \$2.60

63-18592

Trans. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51, no. 6, p. 322-326.

DESCRIPTORS: *Oxides, *Nickel alloys, *Iron alloys,
*Chromium alloys, Spinels, *Electron diffraction
analysis, Thin films, Chemical analysis.

A report is given on the composition of oxide layers
of 300 to 500 Å and 10 to 30 μ thickness on 80-20,
60-15, and 30-20 NiCr alloys. The 10 to 30 μ thick
(Metallurgy--Corrosion, TT, v. 10, no. 10) (over)

63-18592

I. Pfeiffer, I.

Office of Technical Services

The Influence of Sulfur on the Eutectic of
Lead-Antimony Alloys, by K. Knolle, K.
Lohberg, 6 pp.

GERMAN, per, Z Metallkunde, Vol LI, No 6,
1960, pp 350-353.

ATS-88M430

196,875

Sci
May 62

Vol 4, No 10

Dehlinger, U.
PREFORMED NUCLEI IN TRANSFORMATIONS AND
PRECIPITATIONS. 16 Mar 61 [12]p. 20 refs.
Order from SLA \$1.60 61-16094

Trans. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51, no. 6, p. 353-365.
Another translation is available from FRI as FRI
Trans-148 [1961]

DESCRIPTORS: *Phase transitions, *Crystallization,
*Single crystals (Metallurgy)

Preformed nuclei are nuclei existing in stable or meta-
stable thermodynamic equilibrium above the equilib-
rium temperature for a transformation and growing
slowly as the temperature falls; they only become capa-
ble of unlimited growth at a definite "martensite temper-
ature" lying below the equilibrium temperature, as
demonstrated by a discussion of the thermodynamics.
In the cobalt transformation the stacking faults consti-
(Metallurgy, TT, v. 6, no. 3) (over)

61-16094

1. Title: Preformed nuclei
1. Dehlinger, U.

175233

Office of Technical Services

Investigation of Precipitation and Ageing in an
Al-Ge Alloy, by H. Baum.

GERMAN, per, Z. Metallkunde, Vol LI, No 7,
1960, pp 409-413.

Ot 7012

215,513

Sci- Min/Mot

SLA 62-16599

Oct 62

FRI TR-125

Direct Determination of Average Particle Size
in a Microscopic Preparation With an Electrical
Point Counter Equipped With an Eyepiece
Attachment, by Gunther Schneider, 13 pp.

GERMAN, per, Z Metallkunde, Vol LI, 1960,
pp 414-420.

AEC Tr-4373

Sci - Min/Met
Apr 61

149,551

The Recrystallization of Pure and Low-Alloyed Cu is
Investigated and Compared With Al, by W. Dahl.
GERMAN, per, Z. Metallkunde, Vol 51, 1960, pp 421-432.
*NTIS/USDC/NBS TT 71-55045
Available NBS Only

May 71

The Modification of Recrystallisation and Recovery
in Super-Pure Copper by Impurities, by J. Geissler.
GERMAN, per, Zeit fuer Metall, vol. 51, 1960,
pp. 421-423.
NTC 71-12951-11F

JULY 71

Seeger, A. and Trübke, H.
THE PLASTIC DEFORMATION OF ZINC SINGLE
CRYSTALS (Die Plastische Verformung von
Zinkkristallen) tr. by D. A. Sinclair. 1961, 58p.
39 refs. NRCC Technical trans. no. 955.
Order from NRCC \$3.00 NRCC C-3677

Trans. of Zeitschrift für Metallkunde (West Germany)
1960, v. 51, no. 8, p. 435-456.

DESCRIPTORS: *Zinc, *Single crystals, Deformation,
Plasticity, Stresses, Hardening.

(Metallurgy--Structural, TT, v. 6, no. 5)

61-25000

I. Seeger, A.
II. Trübke, H.
III. NRCC TT-955
IV. NRCC C-3677
V. National Research Council
of Canada

NRCC/C-3677

180603

Office of Technical Services

Measurement of the Electron Emission with a
Metallic-Surface Microscope, by Karl H. Gaukler,
6 pp.

GERMAN, per, Z Metallkunde, Vol 51, 1960,
pp 463-466.

AEC/UCRL-Tr-10434-69

Sci/Phy
Apr 70

405,655

Raub, E. and Plate, W.
IRON-RUTHENIUM ALLOYS. [1960] 7p.
Order from ATS \$10.90 ATS-53M45G

Trans. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51, no. 8, p. 477-481.

143,136

(Metallurgy, TT, v. 5, no. 1)

61-12100

I. Iron-ruthenium alloys--
Properties

I. Raub, E.

II. Plate, W.

III. ATS-53M45G

IV. Associated Technical
Services, Inc.,
East Orange, N. J.

Office of Technical Services

Determination of Gases in Metals by Hot-Extraction-
Process Using Gas Chromatography, by R. Lesser,
H. Gruber.

GERMAN, per, Z fuer Metallkunde, Vol LI, Sep 1960,
pp 495-501.

BIBI 2079

Sci - Chem; Min/Met

May 61

150,835

The Representation of Fiber Textures in
Reciprocal Pole Figures, by Hans-Joachim Bunge.

GERMAN, per, Z. Metallkunde, No 51, 1960,
pp 535-536. 9204988

CSIRO/No. 8074

AEC-Tr-5603

Sci - Chem

Apr 63

227,047

Elasticity and Plasticity of an Austenitic
CrNi Steel, by K. Salmutter, F. Stangler.

GERMAN, per, Z fuer Metallkunde, Vol LX, No 9,
1960, pp 544-548.

CEGB 2066

Sci - Chem

Jul 62

List No 57

203,434

Hillmann, Hans and Mager, Albrecht.
PRODUCTION OF SINGLE CRYSTALS OF IRON BY
THE ZONE-MELTING PROCESS [Erzeugung von
Eiseneinkristallen durch das Zonenschmelzverfahren].
[1962].

Order from K-H \$7.50

K-H 10963

Trans. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51, no. 11, p. 663-666.
Other translations are available from SLA \$1.60 as
61-18299 [1961] [16]p and from BISI 83 as BISI-2146
[1961]; partial translations (p. 663-664) are available
from SLA \$1.60 as 61-20447 [1961] [11]p. and
(p. 664-666) from SLA as 62-10319 [1961] [10]p.

DESCRIPTORS: *Iron crystals, Single crystals,
Crystals, Production, *Zone melting.

(Metallurgy, TT, v. 8, no. 5)

62-17373

- I. Hillmann, H.
- II. Mager, A.
- III. K-H-10963
- IV. Kresge-Hooker Science
Library Associates,
Detroit, Mich.

Office of Technical Services

Metallographic Preparation of Precious Metal
Samples, by G. Reinacher, 6 pp.

GERMAN, par, Z. Fur Metallkunde, Vol. ~~XXV~~
XLV.1, no 9, 1960, pp 607-613.

CSIRO

Sci - Min/Met
Nov 61

174,405

Preparation of Iron Single Crystals by Zone
Melting, by H. Hillman, A. Mager.

GERMAN, per, Z fuer Metallkunde, Vol LI, Nov
1960, pp 663-666.

Sci - Min/Met

May 61

HYST 2146

61-20447 (partial)

150,836

62-10319 (partial)

62-10319

Hillmann, H[ans] and Mager, A[lfred].
[PRODUCTION OF SINGLE CRYSTALS OF IRON BY
THE ZONE -MELTING PROCESS] MEASUREMENTS
OF ORIENTATION [Erzeugung von Eiseneinkristallen
Durch das Zonenschmelzverfahren] (Orientierungs-
messung). [1961] [10]p. (foreign text included)
5 refs.
Order from SLA \$1.10

62-10319

Partial trans. (p. 664-666) of Z[schrift für]
Metallkunde (West Germany) 1960, v. 51, no. 11,
p. 663-666.

Another partial trans. (p. 663-664) is available from
SLA \$1.60 as 61-20447 [1961] [11]p.
Complete translations are available from SLA \$1.60
as 61-18299 [1961] [16]p. and BISI 3 as BISI-2146
[1961].

(Metallurgy, TT, v. 7, no. 5)

(over)

Office of Technical Services

- I. Hillmann, H.
- II. Mager, A.
- III. Title: Measurements ...

Thermal Stressing of a Mandrel During the Extrusion
of Tubes, by B. Leifeld.

GERMAN, per, Z fuer Metallkunde, Vol LI, Dec 1960,
pp 674-676.

BISI 2302

Sci - Min/Met

Jul 61

161,031

61-20085

Hartmann, Randolf J. and Macherauch, Eckard.
INVESTIGATIONS OF SLIP PROCESSES IN SINGLE
CRYSTALLITES OF POLYCRYSTALLINE COPPER
SAMPLES (Untersuchung von Gleitvorgängen in
Einzelkristallinen Vielkristallinen Kupferproben).
[1961] [25]p. (foreign text included) 11 refs.
Order from SLA \$2.60 61-20085

I. Hartmann, R. J.
II. Macherauch, E.

Trans. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51 [no. 12] p. 694-699.

DESCRIPTORS: *Copper, Crystals, *Single crystals,
Deformation, Shear stresses, Plastic flow.

The slip planes activated during tensile deformation of
polycrystalline pure copper specimens have been de-
termined from slip band direction and crystallite
orientation. In many cases, slip took place only in
others than the primary system. The effective
(Physics--Solid State, TT, v. 7, no. 1) (over)

Office of Technical Services

Haasen, P. and King, A.
WORK-HARDENING AND STACKING FAULT ENERGY
OF COPPER-ALLOY CRYSTALS. [1961] 25p.
Order from ATS \$36.60

Trans. of Zeitschrift für Metallkunde (West
Germany) 1960, v. 51, no. 12, p. 722-736.

DESCRIPTORS: *Copper alloys, *Crystals, Hardening,
Energy.

(Metallurgy--Structural, TT, v. 6, no. 9)

61-25377

- I. Haasen, P.
- II. King, A.
- III. ATS-36N53G
- IV. Associated Technical
Services, Inc.,
East Orange, N. J.

SLA 63-20051

ATS-921-QJ

(NATIONAL BUREAU STANDARDS)

T-11

FRI TRANS-182
185572

Office of Technical Services

Grain-Boundary Structure and Recrystallisation,
by K. Lusk.

GERMAN, per, Zeits fur Metallkunde, Vol LII,
No 1, 1961, pp 1-12.

CEGB 2046

Sci - Chem
Feb 63

222,507

The Movement of Large-Angle Grain Boundaries on
Recrystallization, by P. A. Beck.

GERMAN, per, Zeits fuer Metallkunde, Vol LII,
No 1, 1961, pp 13-19.

CEGB 2047

Sci
Min/Met
Jan 63

220,879

Hornbogen, Erhard.
SEPARATION OF IRON-MOLYBDENUM AND IRON-
TUNGSTEN SOLID SOLUTIONS (Entmischung von
Eisen-Molybdän- und Eisen-Wolfram-Mischkristal-
len). [1961] [35]p. (foreign text included) 35 refs.
Order from SLA \$3.60 61-20073

Trans. of Zeitschrift für Metallkunde (West
Germany) 1961, v. 52, no. 1, p. 47-56.

DESCRIPTORS: Separation, *Iron, *Molybdenum,
*Tungsten, Solids, Solutions, Decomposition,
Lattices, Particles, Precipitation, Temperature,
Hardness, Crystal structure, Alloys, Metal-
lurgical analysis.

A special type of discontinuous decomposition has
been found in supersaturated solid solutions of iron
and molybdenum or tungsten. Starting from various
(Physics--Solid State, TT, v. 7, no. 8) (over)

61-20073

I. Hornbogen, R.

CEGG 2503

201419

Office of Technical Services

Problems of Modern Techniques in Metal Rolling,
by O. H. C. Messner.
GERMAN, per, Z. Metallk, Vol 52, No 1, 1961,
pp 57-58.
GB/160

Sci -
Jul 67

334,344

ROD AND TUBE DRAWING ON MODERN
DRAWBENCHES, BY H. MAKELT.

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BISI 2408

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Problems of Modern Techniques in Metal Rolling,
by O.H.C. Messner.

GERMAN, per, Z. Metallk, Vol 52, 1961, pp 57-58.
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Kinetics of Segregation Processes in Supersaturated
Mixed Crystals of Aluminum - Zinc, by Volkmar
Gerold, Werner Schweizer, 24 pp.
GERMAN, per, Zeitschrift fuer Metallkunde, 9228259,
Vol LII, 1961, pp 76-85.
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FUNDAMENTALS OF STRIP ROLLING AND A SIM-
PLIFIED CALCULATION OF THE NO-SLIP POINT
(Bemerkungen über einige Plastizitätstheoretische
Grundlagen des Bandwalzens und eine Vereinfachte
Berechnung der Fliesscheidenlage) [1961] [26]p.
(foreign text included) 11 refs.
Order from SLA \$2.60

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Germany), 1961, v. 52, no. 2, p. 95-100.

DESCRIPTORS: *Rolling mills, *Plasticity, Design,
Torque, Metals, Stresses, Mechanical properties,
Friction, *Aluminum, *Steel, Processing

The use of dynamic and kinematic variables which de-
scribe the mechanical state of a differential element of
(Metallurgy, TT, v. 7, no. 5) (over)

- I. Troost, A.
- II. Hölling, K.

Office of Technical Services

The Electrical Resistance of Metallic Melts, by
A. Roll.

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No 2, 1961, pp 111-120.

NTC-71-12379-11F

May 2 3114 / NRL 886 29 pp

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On the Heat Treatment of Two-and Three-
Component Alloys on the Basis of Magnesium
Zirconium in Hydrogen, by Hans-Joachim Taschow,
9 pp.

GERMAN, per, Z fuer Metallkunde, Vol LII, No 2,
1961, pp 135-141.

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Present Stage of Development of Cold Pilgering
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BISI 2478

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Investigation of Vacancies and Phase Separation in
the System Copper-Nickel by Means of the Electrical
Resistance, by Wolfgang Schuele, Hans-Peter Kehr, 40 pp.

GERMAN, per, Z fuer Metallkunde, Vol LII, 1961,
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Unpressed Powders, by K. Torkar, et al.

7 pp.

GERMAN, per, Z. Metallkde., 52, 1961
pp. 209-215.

*CFSTI TT 70-58112

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electric Materials. II. Experimental Methods
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Horst Schreiner, 16 pp.

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SLA 61-20754

* REC REF ID: A61-TR-899

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Internal Stresses in Metallic Uranium Caused by
Faulty Boring, by H. Buhler, W. Schreiber.

GERMAN, per, Z. Metallkunde, Vol LII, No 4, 1961,
pp 270-275.

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Investigation of Low Temperature Separation Process
In an Aluminium Alloy Containing 10% by Weight of
Mg., by H. Cordier, K. Detert.
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Gruber, H.
PROCESS VARIATIONS. Pt. 1 of the Melting of Metals
with Electron Beams. [1961] 33p.
Order from ATS \$45. 40

ATS-77N56G

Trans. of Zeitschrift für Metallkunde (West Germany)
1961, v. 52, no. 5, p. 291-309.

DESCRIPTORS: *Electron beams, *Metals, Melting,
Liquid metals, Processing.

(Metallurgy, TT, v. 7, no. 4)

I. Gruber, H.
II. Title: Melting ...
III. ATS-77N56G
IV. Associated Technical
Services, Inc.,
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I. Alexander, H.

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Alexander, Helmut.
PLASTIC DEFORMATION OF GERMANIUM SINGLE
CRYSTALS. [1961] 15p. 39 refs.
Order from SLA \$1.60

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Trans. of Zeitschrift für Metallkunde (West Germany)
1961, v. 52, no. 5, p. 344-352.
Another trans. is available from ATS \$28.25 (\$3.95)
as ATS-14N55G [1961] 15p.

DESCRIPTORS: *Germanium, *Single crystals, *De-
formation, Plastic flow.

The entire stress-strain curve of germanium single
crystals was determined during tensile experiments in
the temperature range of 470 to 800°C and at elonga-
tion rates varying over three orders of magnitude.
Qualitatively, marked agreement was found with the
behavior of face-centered cubic metals, particularly
(Physics--Solid State, TT, v. 7, no. 4) (over)

Office of Technical Services

The Yield Point Single Crystals of α - Iron, by
M. Evers.

GERMAN, per, Z fuer Metallkunde, Vol LII, May 1961,
pp 359-364.

BISI 2593

Sci - Chem

May 62

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62-14632

Thielmann, K.
HARDNESS AND SPRING BACK OF METAL WIRES.
[1962] 5p. (4 figs. 1 table [refs.] omitted).
Order from SLA \$1.10 62-14632

I. Thielmann, K.

Trans. of Zeitschrift für Metallkunde (West Germany)
1961, v. 52, no. 5, p. 368-370.

DESCRIPTORS: *Wire, *Copper wire, Metals,
Hardness, Hardening, Deformation, Heat treatment,
Elasticity.

A simple apparatus is described which allows the de-
termination of torsional back spring on wires. This
method, because of its high sensitivity and simple de-
sign may, in some cases, replace penetration hardness
measurements. The Brinell hardness is related in a
straightforward manner to the torsional back spring
and the modulus of elasticity. (Author)

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(Metallurgy, TT, v. 8, no. 8)

Phenomena Occuring After the Selective Oxidation
of Binary and Ternary Alloys, by H. Pfeiffer.
GERMAN, per, Zeitschrift fuer Metallkunde, vol. 52,
no. 7, 1961, pp. 481-488.
NTC 71-12921-11F

BIE 2867

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Precipitation Hardening During Discontinuous
Precipitation, by H. Bohm.

GERMAN, per, Zeitschrift für Metallkunde, LII,
No 8, 1961, pp 512-517.

Q122 2504

Sci - M/M
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Evaluation of Measurements of Film Thickness of Binary
Alloys With Internal Oxidation and Simultaneous External
Oxidation, by F. Maak.
GERMAN, per, Zeitschrift fur Metallkunde, Vol 52, 1961,
pp 545-546.
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Stress Corrosion Tests on AlZnMg3 Under
Constant Tension and Bending, by P. Brenner,
W. Gruhl.

GERMAN, per, Zeit Fuer Metallkunde, Vol 52,
No 10, 1961, pp 599-607.
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Sci-Materials
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Ginsberg, Hans and Neunzig, Heinrich.
THE STRUCTURE AND BRIGHTNESS OF 99.9% ALU-
MINUM AND ITS ALLOYS. [1962] 12p. (13 figs. omit-
ted) 3 refs.

Order from SLA \$1.60

62-14837

Trans. of Zeitschrift für Metallkunde (West Germany)
1961, v. 52, no. 10, p. 626-631.

DESCRIPTORS: *Aluminum, *Aluminum alloys, Micro-
structure, *Brightness, Electrolytic polishing.

Investigations show that the surface brightness of
AlMg alloys, based on 99.9% Al, depends primarily
on the as-cast structure. The optimum structure is
homogeneous and has an equiaxed grain size. It re-
mains fine grained even after homogenizing for 8 to 10
hours at about 1100° P. The forging temperature is of
major importance in obtaining a structure-free sheet
surface. Homogenized sheet ingots have to be cold
(Metallurgy--Structural, TT, v. 8, no. 3) (over)

62-14837¹

I. Ginsberg, H.
II. Neunzig, H.

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Segregation Processes in the Aluminum-Silver System, by Reinhold Baur, Volkmar Gerold.
GERMAN, per, Zeit. Metall., Vol 52, No 10,
pp 671-676, 1961 9229949
AEC ORNL-Tr-636

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Eichenauer, Walter, Hattenbach, Karl, and
Pebler, Alfred.

THE SOLUBILITY OF HYDROGEN IN SOLID AND
MOLTEN ALUMINIUM (Die Löslichkeit von Wasser-
stoff in Festem und Flüssigem Aluminium). [1962]

[18]p. (foreign text included) 12 refs.

Order from SLA \$1.60

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Trans. of Zeitschrift für Metallkunde (West Germany)
1961, v. 52, no. 10, p. 682-684.

DESCRIPTORS: *Aluminum, Melting, Liquid metals,
Solids, *Hydrogen, Solubility.

The hydrogen absorption of pure aluminum between
360°C and 1050°C has been calculated from the
temporal process of degassing. The following relation
stands for solid aluminium: $\log l = 0.521 - (3042/T) + 1/2$
 $\log p$ (l in cm³ NTP/100g, p in Torr, T in °K). The
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I. Eichenauer, W.
II. Hattenbach, K.
III. Pebler, A.

Office of Technical Services

Precipitation in β Titanium-Vanadium Alloys,
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GERMAN, per, Z fuer Metallkunde, Vol LII, No 10,
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SOLID SOLUTIONS OF PALLADIUM AND NEIGH-
BORING ELEMENTS IN THE PERIODIC SYSTEM.
Pt. 16 of Conductivity and Hall Constant. [1962] 11p.
Order from ATS \$21.80 ATS-53P59G

Trans. of Zeitschrift für Metallkunde (West
Germany) 1961, v. 52, no. 11, p. 721-727.

DESCRIPTORS: *Palladium, Solids, Solutions, Chem-
ical elements, Conductivity.

I. Koster, W.
II. Hagmann, D.
III. Title: Conductivity...
IV. ATS-53P59G
V. Associated Technical
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ATS-924-GJ

(Metallurgy--Nonferrous Metals, TT, v. 8, no. 4)

Office of Technical Services

Hagmann, D.

APPLICATION OF THE TWO-BAND MODEL TO THE
ELECTRIC PROPERTIES OF PALLADIUM. Pt. 17 of
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Order from ATS \$21.85

ATS-54P59C

Trans. of Zeitschrift für Metallkunde (West
Germany) 1961, v. 52, no. 11, p. 727-735.

DESCRIPTORS: *Palladium, Electrical properties,
Conductivity.

(Metallurgy--Nonferrous Metals, TT, v. 8, no. 4)

62-17167

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- II. Title: Conductivity...
- III. ATS-54P59C
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Electron Microscopic Investigation of Vacancy
Agglomerates in Quenched Face-Centered Cubic
Crystals, Particularly in Ni - Co Alloys, by
Sigfried Hader, Alfred Seeger, et al, 21 pp.

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GERMAN, per, Zeitschrift Fur Metallkunde, Vol LII, No 2, 1962, pp 122-130.

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Mechanical Damping Due to Magnetic Processes, by
H. Franz.
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No 1, 1962, pp 27-37.
NTC-71-12074-20C

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NITROGEN-CONTAINING ALLOYS OF THE TRANSITION METALS
MANGANESE, IRON, COBALT AND NICKEL WITH CALLIUM,
GERMANIUM, INDIUM AND TIN, BY H. H. STADELMAIER,
A. C. FRAKER.

GERMAN, PER, Z FUER METALLKUNDE, VOL LIII, NO 1,
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BISI 2905

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Review of Present Position of the Powder
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N. Franzen.

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Contribution to the Technology of Stainless
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NTC 71-14420-11F

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from Growth and Orientation of Tungsten Whiskers,
by H. Ahlborn, G. Wassermann.

GERMAN, per. Z fuer Metallkunde, Vol LIII, No 2,
1962, pp 132-134.

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Sci-M/M
July 63

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Research Into the Metal Arc Spraying Process, by
A. Matting and H. D. Steffens.

GERMAN, per, Zeitschrift fur Metallkunde,
Vol LXXX, 1962, pp 138-144.

BISI 3116

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A Deformation (Strain) Apparatus for the Measurement
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Temperatures, and Investigations Into the Plastic
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Schule, Otto Buck, 17 pp.

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Sci - Engr, EChem
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The Diffusion and Solubility of Oxygen in Ag.
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